

**REMARKS**

In the Office Action mailed August 23, 2005, the Examiner rejected all of claims 43-80 under U.S.C. § 103(a). Applicants are amending claims 43, 45, 46, 50-53, 61-64, 68, 72, 73, and 75-77. Applicants respectfully submit that no new matter is being added by these amendments.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)**

In section 2 of the Office Action, the Examiner rejected claims 43-52, 55-59, 62, 63, 75, 76, 79, and 80 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,072,903 to Maki et al. ("Maki") in view of U.S. Patent No. 6,601,010 to Fowler et al. ("Fowler"). Applicants respectfully traverse.

Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. A second embodiment of the system of Maki creates a surface model of the head of a person. Maki, col. 14, lines 52-53. This second embodiment includes a 3-D motion information extraction unit that determines the position and posture of the head of the person, and a distance information detector that detects information on the distance to the object and reconstructs the shape according to the position and posture of the head. Maki, col. 15, lines 9-16; 49-51. A third embodiment of the system of Maki obtains images of an object using a video camera, analyzes the images for use in three-dimensional pointing, and acquires and tracks the posture of the object. Maki, col. 23, line 64 – col. 24, line 11. The system of Maki detects the position and posture of a person's head for the purposes of creating a model of the

person's head or using the position and posture of the head as a three-dimensional pointer.

Maki, col. 2, lines 47-59.

Amended claim 43 recites "a third module . . . configured to identify behaviors of the objects of interest in response to the plurality of shape and posture categories and standard object behaviors." Maki does not teach or disclose a module configured "to identify behaviors of the objects of interest in response to the plurality of shape and posture categories and standard object behaviors" as recited in claim 43. There is no teaching or disclosure in Maki of using a plurality of shape and posture categories of an object to identify behaviors of the object. The section of Maki cited by the Examiner (Col. 15, lines 49 – 57) describes the distance information detector which merely gathers distance information to use to reconstruct the object. Further, claim 2 of Maki (Col. 32, lines 56-67) referred to by the Examiner, which is dependent from claim 1 of Maki, recites additional information about the distance information detector for use in acquiring the shape of the object as set forth in the preamble of claim 1 of Maki. Thus, the shape of the object is not detected as stated by the Examiner, but rather it is what the system in Maki is trying to determine. The citation to col. 24 does not supply the missing elements and merely explains that feature points are used to track the object over a series of images.

The Examiner stated that Maki does not explicitly state "characterize the behaviors of the objects of interest in response to standard object behaviors" as recited in original claim 43 and that Fowler teaches "studies of stimulant induced stereotypies which are characterized by intense activity in one place," citing col. 15, line 65 – col. 16, line 14. Amended claim 43 now recites a third module "configured to identify behaviors of the objects of interest in response to the plurality of shape and posture categories and standard object behaviors."

Fowler discloses a force plate actometer apparatus that includes a force plate and transducers coupled with the plate. The transducers sense movements of the force plate caused by the movements of a test animal on the plate. Fowler, col. 2, lines 14-22. The apparatus of Fowler can determine a change in location of the test animal by sensing movements of the force plate. Fowler defines a “stereotypy” as “the intensity and rhythm of behavior occurring in ‘one place’ under the influence of a stereotypy-inducing dose of amphetamine.” Fowler, col. 22, lines 58-60. Fowler discloses that stimulant induced stereotypies can be studied. Fowler, col. 16, lines 1-5. However, since Fowler only tracks movements of a test animal over the two-dimensional force plate, Fowler does not teach or disclose a “plurality of shape and posture categories” as recited in claim 43. For example, if a test animal is not moving, the system of Fowler would not be able to determine whether the test animal is standing or lying down.

Fowler does not disclose a module “configured to identify behaviors of the objects of interest in response to the plurality of shape and posture categories and standard object behaviors” as recited in claim 43. The cited section of Fowler (col. 15, line 65 – col. 16, line 14) lists various parameters that are chosen depending on the scientific questions being addressed with the particular force plate actometer tests. Fowler, col. 15, lines 59-64. This list of parameters does not teach or disclose any of the elements of claim 43. The force plate actometer system of Fowler does not include a module configured “to identify behaviors of the objects of interest in response to the plurality of shape and posture categories and standard object behaviors.”

Further, there is no motivation to combine Maki with Fowler, and the Examiner has not pointed to any suggestion that one skilled in the art should combine them. Maki discloses an image processing system and method for head-tracking (following the movement of a

head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Maki and Fowler are directed to non-analogous arts. One of ordinary skill in the art of image processing systems would have *no* motivation to combine a reference relating to image processing systems with a reference relating to detecting movements of a force plate, and one of ordinary skill in the art of determining variations in location of an animal by sensing movements of a force plate would not be motivated to combine a reference relating to detecting movements of a force plate with a reference disclosing an image processing system.

None of the cited references, either alone or in combination, teaches or discloses all of the limitations of claim 43, and there is no motivation to combine the references. Applicants respectfully submit that claim 43 is not obvious in view of Maki and Fowler and is allowable. Claims 44-50 depend, directly or indirectly, from claim 43 and are therefore allowable for at least the same reasons.

Regarding claim 51, the Examiner stated that arguments analogous to those presented for claim 43 are applicable. However, claim 51 is a separate independent claim and should be analyzed independently. Amended claim 51 recites “obtaining standard object behaviors” and “characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors.”

As set forth above, Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of

decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Maki does not teach or disclose “obtaining standard object behaviors” or “characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors” as recited in claim 51.

As set forth above, Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Fowler does not teach or disclose “obtaining standard object behaviors” or “characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors” as recited in claim 51.

Further, there is no motivation to combine Maki with Fowler, and the Examiner has not pointed to any suggestion that one skilled in the art should combine them. Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Maki and Fowler are directed to non-analogous arts. One of ordinary skill in the art of image processing systems would have *no* motivation to combine a reference relating to image processing systems with a reference relating to detecting movements of a force plate, and one of ordinary skill in the art of determining variations in location of an animal by sensing movements of a force plate would not be

motivated to combine a reference relating to detecting movements of a force plate with a reference disclosing an image processing system.

None of the cited references, either alone or in combination, teaches or discloses all of the limitations of claim 51, and there is no motivation to combine the references. Applicants respectfully submit that claim 51 is not obvious in view of Maki and Fowler and is allowable. Claims 52-63 depend, directly or indirectly, from claim 51 and are therefore allowable for at least the same reasons.

Regarding claim 75, the Examiner stated that arguments analogous to those presented for claim 43 are applicable. However, claim 75 is a separate independent claim and should be analyzed independently. Amended claim 75 recites “obtaining standard object behaviors” and “characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors.”

As set forth above, Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Maki does not teach or disclose “obtaining standard object behaviors” or “characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors” as recited in claim 75.

As set forth above, Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Fowler does not teach or disclose “obtaining standard object behaviors” or “characterizing behaviors of the objects of

interest in response to comparison between the postures of the objects of interest and the standard object behaviors” as recited in claim 75.

Further, there is no motivation to combine Maki with Fowler, and the Examiner has not pointed to any suggestion that one skilled in the art should combine them. Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Maki and Fowler are directed to non-analogous arts. One of ordinary skill in the art of image processing systems would have *no* motivation to combine a reference relating to image processing systems with a reference relating to detecting movements of a force plate, and one of ordinary skill in the art of determining variations in location of an animal by sensing movements of a force plate would not be motivated to combine a reference relating to detecting movements of a force plate with a reference disclosing an image processing system.

None of the cited references, either alone or in combination, teaches or discloses all of the limitations of claim 75, and there is no motivation to combine the references. Applicants respectfully submit that claim 75 is not obvious in view of Maki and Fowler and is allowable. Claims 76-80 depend, directly or indirectly, from claim 75 and are therefore allowable for at least the same reasons.

In section 3 of the Office Action, the Examiner rejected claims 53, 64, 66-74, and 77 under 35 U.S.C. § 103(a) as being unpatentable over Maki in view of Fowler, and further in view of U.S. Patent No. 5,870,138 to Smith et al. ("Smith"). Applicants respectfully traverse.

As set forth above, claim 53 depends from claim 51 and is allowable for at least the same reasons, and claim 77 depends from claim 75 and is allowable for at least the same reasons.

Regarding claim 64, the Examiner stated that arguments analogous to those presented for claim 43 are applicable. However, claim 64 is a separate independent claim and should be analyzed separately. Amended claim 64 recites "means for obtaining standard object behaviors" and "means for characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors."

As set forth above, Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Maki does not teach or disclose "means for obtaining standard object behaviors" or "means for characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors" as recited in claim 64.

As set forth above, Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Fowler does not teach or disclose "means obtaining standard object behaviors" or "means for characterizing behaviors of the objects of interest in response to comparison between the postures of the objects of interest and the standard object behaviors" as recited in claim 64.



Further, there is no motivation to combine Maki with Fowler, and the Examiner has not pointed to any suggestion that one skilled in the art should combine them. Maki discloses an image processing system and method for head-tracking (following the movement of a head of a person), video compression capable of decreasing the data amount required for image communication by extracting the motion vector of the person in a teleconference, and three-dimensional pointing in a virtual reality system. Maki, col. 1, lines 11-18. Fowler discloses a force plate actometer that determines variations in location of an animal by sensing movements of the force plate. Maki and Fowler are directed to non-analogous arts. One of ordinary skill in the art of image processing systems would have *no* motivation to combine a reference relating to image processing systems with a reference relating to detecting movements of a force plate, and one of ordinary skill in the art of determining variations in location of an animal by sensing movements of a force plate would not be motivated to combine a reference relating to detecting movements of a force plate with a reference disclosing an image processing system.

None of the cited references, either alone or in combination, teaches or discloses all of the limitations of claim 64, and there is no motivation to combine the references. Applicants respectfully submit that claim 64 is not obvious in view of Maki and Fowler and is allowable. Claims 65-74 depend, directly or indirectly, from claim 64 and are therefore allowable for at least the same reasons.

In section 4 of the Office Action, the Examiner rejected claims 54, 60, 61, 65, and 78 under 35 U.S.C. § 103 as unpatentable over Maki in view of Fowler, and further in view of U.S. Patent No. 6,535,131 to Bar-Shalom et al.

Claims 54, 60, and 61 depend from claim 51 and are therefore allowable for at least the same reasons. Claim 65 depends from claim 64 and is therefore allowable for at least the same reasons. Claim 78 depends from claim 75 and is therefore allowable for at least the same reasons.

### CONCLUSION

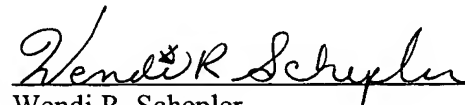
Based on the foregoing remarks, Applicants respectfully submit that all pending claims in the present application are in condition for allowance and respectfully request the issuance of a Notice of Allowance. If a telephone conference would facilitate the prosecution of this application, the Examiner is invited to contact Applicants' attorney at the number listed below.

Respectfully submitted,

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